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**Citation:** Caraher, M., Jakšić, D., Dolciemi, F., Stigliani, A. & Wynne-Jones, R. (2017). Promoting Healthy Eating Habits in the Working Population: The FOOD Program. *MOJ Public Health*, 6(00181.), doi: 10.15406/mojph.2017.06.00181

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# Promoting Healthy Eating Habits in the Working Population: The FOOD Program

## Abstract

**Objective:** Promote healthy diets through offer and demand, drawing workers' attention to diet and modifying food offers through educating food suppliers.

**Methods:** Target group today over six million workers and 430.000 restaurants. Activities in restaurants and companies: Monitoring is carried out by an annual survey.

**Results:** 2015 over 70% of Italian workers have lunch break every day, 41% inside and 59% outside the workplace (Europe 60% and 30%). 70% consider local and seasonal products important and 21% declare to be familiar with the programme, and 25% are prepared to change their eating habits. Italian restaurant owners state that 90% of their staff has good level of knowledge and 67% are willing to serve balanced meals (85% and 56% Europe).

**Conclusion and implications:** The programme is giving good results, but also confirms that there is still to be done, particularly in the field of education and information in workplaces.

## Research Article

Volume 6 Issue 4 - 2017

**Martin Caraher<sup>1</sup>, Dario Jakšić<sup>2</sup>, Federico Dolciemi<sup>2</sup>, Angela Stigliani<sup>2</sup>, Richard Wynne<sup>3</sup>, Fabrizio Stracci<sup>4</sup> and Giuseppe Michele Masanotti<sup>4\*</sup>**

<sup>1</sup>Centre for Food Policy, School of Arts and Social Sciences, City University, UK

<sup>2</sup>School of Hygiene and Preventive Medicine, University of Perugia, Italy

<sup>3</sup>Work Research Centre, Ireland

<sup>4</sup>Department of Experimental Medicine, Division of Public Health, University of Perugia, Italy

**\*Corresponding author:** Giuseppe M Masanotti, Department of Experimental Medicine, Section of Public Health, University of Perugia, via del Giochetto n. 6, 06122 Perugia, Italy, Tel: +39 0755857315; Email: giuseppe.masanotti@unipg.it

**Received:** October 14, 2016 | **Published:** November 14, 2017

## Introduction

Despite the continuing high levels of malnutrition across the world, the World Health Organization (WHO) declared that obesity is one of the most serious issues in Public Health worldwide [2016 Global Nutrition Report]. We are at the beginning of an epidemic-for the first time in history the number of overweight adults surpassed the number of those who were underweight in 2000. Recent studies propose that obesity should not be considered as a disease of the individual, but rather as being the result of many environmental and socio-economic factors which influence eating habits and lifestyle and from which an epidemic diffusion of obesity results [1,2]. The publication "Country profiles on nutrition, physical activity and obesity in the 53 WHO European Region Member States (2013)" shows how, in Europe, overweight prevalence differs from 31% to 72% among male adults and from 31% to 64% among females [3]. In Italy, according to the report "Osservasalute 2014", more than a third of the adult population (35,5%) is overweight, and one in ten is obese (10,3%) [4]. Besides the well-known modifiable risk factors which may influence lifestyle such as diet, smoking or sedentary lifestyles, the influence of psychosocial and stress-related factors is always relevant because of the clear relation with emotional state and, therefore, with food consumption and eating behaviours [5-7]. Often the typical reaction to these chronic stress conditions, especially if work-related, is not to avoid food, but rather to eat high-energy foods, which increase the risk of BMI. In addition, poor working conditions are related to overweight/obesity [8,9]. So on one hand such risk factors can expedite the onset of obesity, while on the other hand, obesity is the main or at least a contributory cause of exposing the worker to occupational diseases [10,11] and accidents [12,13], with more than 26% of increased probability risk for overweight workers

and more than 76% for obese ones [14]. Last but not least is the issue of absenteeism: overweight and obese workers are absent from work 450 million aggregate days more than their normal weight colleagues. This amounts to 153 billion dollars per year in lost productivity [15-17]. For example, a 2005 report by the International Labour Organization (ILO) has analysed eating habits in many countries worldwide and has showed how a poor or excessive diet in the workplace could decrease productivity by 20% [18]. In terms of productivity loss and costs for health care and welfare, obesity therefore represents a heavy economic burden for public spending: one obese person costs 25% more to the health system and for most OECD countries, obesity increases health spending by c. 1-3% [19-21].

Other interesting data coming from USA concerns the employment practices: more unemployed people are obese because employers prefer to hire non-obese people as they are more productive, suffer less absenteeism and require a lower level of subsidies. Furthermore, obese people experience higher levels of discrimination in the work environment and have less self-esteem [22]. The workplace can therefore be an ideal place to promote healthier habits and improve weight control. Employers might be motivated to implement health promotion campaigns and choice architecture to avoid the high costs of worker's health care [23-25]. Such campaigns could operate at three levels: food supply services (healthy and low-energy food supply, portion control, nudges to healthy options and prices); the work environment (i.e. chance to exercise); and education

and information services to increase knowledge about obesity [26]. The quality of diet remains an important focus, because, according to strong scientific evidence and the latest guidelines, it seems that it can combat the adverse effects of the work-related psychosocial factors that influence obesity and all its consequences [18-27]. The Fighting Obesity through Offer and Demand (FOOD) programme focuses on promoting healthy diets through offer and demand, drawing workers' attention to diet and modifying food offers through educating food suppliers. It was an EU funded programme acting as an example of public private partnership, led by Edenred and involving statutory public health agencies and public health NGOs in the original 6 countries. Edenred (formerly part of the Accor Services group) manages the Ticket restaurant system in Europe. This is where employers provide subsidised luncheon vouchers (tickets) to employees as an employee benefit.

The pilot project, lasted two years with 6 European countries, has been transformed into a continuing programme. The programme was collaboration between the private sector led by Edenred and various public and civil society partners. It was in line with the principles of the EU Platform for Action on Diet, Physical Activity which encouraged industry involvement. In 2015 it was expanded to nine participating countries, with a target group of over six million workers and more than 430,000 restaurants. The basic action plan consists in creating an inventory of workplace healthy lifestyle promotion programs, specific surveys of workers and restaurant owners, pilot projects in restaurants and companies to increase workers' awareness and create more balanced menus, interviews and mystery visits. Monitoring is carried out by means of an annual survey to all participating countries. Here we use Italian data as the comparator from the European survey and compare them to the European average.

### The Aims of the FOOD Project

A balanced diet is essential for European citizens' health. Awareness of the outcomes of poor nutrition is growing by the day, but much remains to be improved. Moreover, it is still difficult to consume a healthy meal during the working day due to the food offers available to most workers. To counteract this, it is therefore important to act both in the working world and with the food supply system. In an active collaboration between the private and public sector, the FOOD programme focuses on promoting healthy diets through new channels, improving the offer of balanced dietary options and simplifying the choice for consumers with better information, inside and outside of the workplace. Furthermore, the programme aims to address the myth of high costs for healthy food, proving instead that value for money can be achieved by selecting local and fresh products, due to their lower transportation costs. The main objectives of the programme are two fold:

- a. To draw workers' attention to, and to help improve diet and fight poor nutrition habits that are dangerous to health;
- b. To modify food offers through educating food suppliers, thus giving restaurants and catering services the tools they need to enhance the nutritional quality of meals.

From these two main objectives, other specific objectives were developed:

- a. To evaluate the needs and expectations of both employers and restaurants through two specific surveys and a baseline inventory;
- b. To understand their real needs and to collect experts' recommendations for improvements;
- c. To insert these recommendations into practical guides that are able to reach people working at all levels;
- d. To adapt food offers to consumer's demands;
- e. To organise training courses for restaurant owners, cooks and waiters, in the context of national contexts;
- f. To allow full access to the information through different channels (posters, booklets, guides, websites, social networks) [28].

### Materials and Programme Delivery

The pilot project lasted two years (from 2009 to 2011) with six European countries initially involved: Belgium, France, Czech Republic, Italy, Spain and Sweden. The surveys were undertaken with companies and restaurants and a communication channel was created to help improve the food offers of suppliers and to help change European citizen's habits and lifestyles in relation to nutrition. For this purpose nutritionists, health authorities and universities from several EU member States were involved. An action plan was developed which had 5 complementary and consecutive steps:

- a. Creation of an inventory of workplace healthy lifestyle promotion programs in 27 European countries to understand the needs of every country, and compilation of a 760 page document with analysis of 130 of such programs.
- b. Specific surveys of workers and restaurant owners in the participating countries using semi-structured interviews. A first questionnaire was distributed before the intervention to understand levels of knowledge and education in the target groups and their needs; a second questionnaire was distributed at the end of the project to evaluate the efficiency of the intervention. After data analysis, 12 documents (two for each country and one for each target group) and 10 recommendations were elaborated.
- c. Conception and realisation of pilot projects in restaurants and companies through simple and target-specific tools with the purpose of increasing and enhancing the levels of awareness of workers and enabling restaurant owners to create more balanced menus. Roadshows with advertising buses were also organised in the six project countries; DVDs, guides, websites, kitchen lessons and awareness raising days were also implemented.
- d. Evaluating the first pilot projects and identifying the more efficient tools and actions by interviewing circa 52000 workers and 5000 restaurants and undertaking 170 mystery visits to the participating FOOD restaurants.

- e. Publishing of Best Practices in Europe and worldwide.

### Transforming the FOOD Project

The pilot project officially ended on April the 30<sup>th</sup> 2011 as stipulated in the co-financing agreement with the European Commission. However, in the light of the results and the quality tools developed during the 28 months of work, the FOOD project has been transformed into an on-going programme with the same principles and objectives as the original project led by Edenred as part of its CSR agenda. On December the 14<sup>th</sup> 2011, twenty-three partners have endorsed a new consortium agreement containing the principal actions and the programme structure. The aim of developing the FOOD project into a programme has also spread to new countries with new partners. With the entrance of Slovakia in 2011 and Portugal in 2012, the target group has reached over six million workers and more than 430 thousand restaurants. Finally, in 2015, with the entrance of the Austrian Ministry of Health and the Edenred, the programme has reached 9 participating countries and the numbers in the two target groups (employees and restaurants) has increased even more. The Consortium Agreement has been renewed for the next three years. In brief, the programme consists of:

- Maintaining the central role of the two complementary axes: offer and demand;
- Developing a network of restaurants in compliance with FOOD standards;
- Applying the reviewed and upgraded tools produced and evaluated in the pilot project;
- Analysing the methods implemented with:

- Annual barometers enabling the accurate comparison of results
- Brief questionnaires targeting restaurant owners and workers, specific to each country
- Random controls in the FOOD-net restaurants to monitor the implementation of the standards (mystery visits);
- Planning two annual meetings for each country to distribute questionnaires, collect results and debate national strategies;
- Planning one annual general meeting to launch new shared strategy and promote the productive and efficient exchange of views.

As part of its on-going monitoring an annual survey of participating companies was undertaken. Since 2009 more than 35000 questionnaires from employees and more than 4000 from restaurant owners have been collected. Questionnaires are sent by e-mail to all employees in the participant companies and to all associated restaurants. The 2015 FOOD barometers have collected 8587 questionnaires from employees and 1278 from restaurant owners. These data increased significantly compared to the previous year, indicating the growing interest in the program.

### Results

Italy remains one of the most active countries involved in the programme, providing in 2015 about 60% of the data from restaurants (the highest in Europe) (42% on average since 2009) and 12,4% data from employees (14% on average since 2009) (Table 1).

**Table 1:** Results from the 2015 barometers: number and percentage of questionnaires from each Country in 2015.

	Belgium	Czech Republic	France	Italy	Portugal	Slovakia	Spain	Sweden	Average	Total
<b>Employees (%)</b>	3192 (37.2%)	1079 (12.6%)	1011 (11.8%)	1067 (12.4%)	512 (5.9%)	1105 (12.9%)	621 (7.2%)	-	1226,7	8587
<b>Restaurants (%)</b>	-	207 (16.2%)	105 (8.2%)	774 (60.6%)	43 (3.4%)	86 (6.7%)	63 (4.9%)	-	213	1278

### Demand

In line with the average of other countries, over 70% of Italian workers reported having a lunch break every day, with 41% taking their lunch in their workplace (homemade meals, canteens or vending machines) and 59% outside (restaurants, cafes, etc.). This compares to the European average of 60% and 30% respectively. 82% and 72% of Italian workers consider the speed of service and the price as important/very important for their choice, when selecting a restaurant, which is below the European average. However, the nutritional quality of the food is decisive for 82% of them, while the European average is 78%. The proximity to the workplace and the quality of the environment are respectively around 75% and 70%, well below European average. It is notable that 70% of Italian workers consider the availability of a wide variety of local and seasonal vegetables and products to be essential. This percentage has considerably grown from

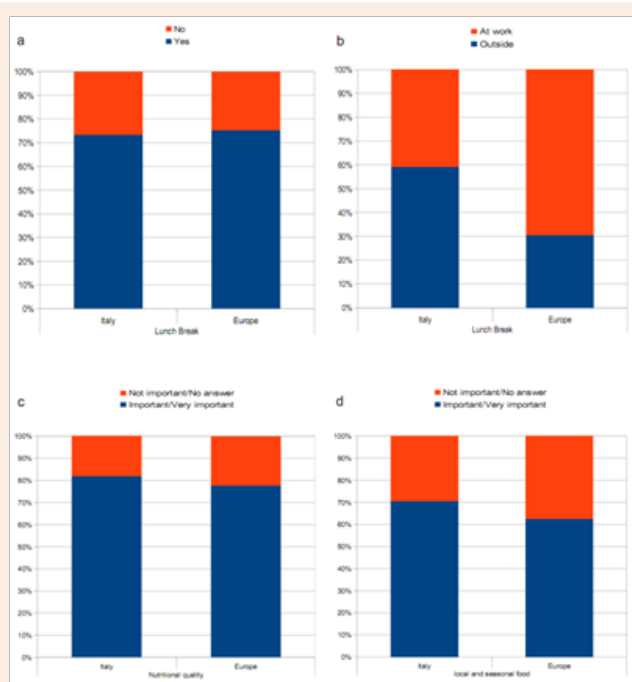
2010 to 2015 at European level too (from 50, 99% to 62,4%), indicating the effectiveness of the programme and of the adopted methods. Feedback from the workers on programme showed that about 21% of Italian workers (higher than the European average) declare themselves to be familiar with the programme and the material, and circa 25% feel the need or are already prepared to change their eating habits (Figure 1).

### Offering healthy options

The majority (%) of the 774 Italian participating restaurateurs own a café or a restaurant and serve lunch every day to between 50 and 150 people, most of whom are workers (85% compared to the European average of 78%). The owners reported that 90% of their staff has either medium or high levels of knowledge about balanced nutrition, compared to 85% for the rest of Europe, despite the finding that 58% of them were not aware of either the



FOOD programme or its logo. Although only 10% of restaurants have applied the FOOD recommendations, the sale of healthy meals and the request of information about their composition had risen up to 30%, which is above the European average. Only 19% of interviewees consider healthy food less tasty, but over 30% believe that it requires more time and money to be prepared. It is relevant to notice that since 2009 the percentage of European restaurateurs who disagree with healthy food stereotypes has been steadily growing. Finally, the survey showed that up to 67% of interviewees think that food offer changes could influence client's lifestyle (58% is the European average) and 67% of them, against 56% in the other countries, are willing to try to serve balanced meals if starting investments are not too high (2014 data) (Figure 2).



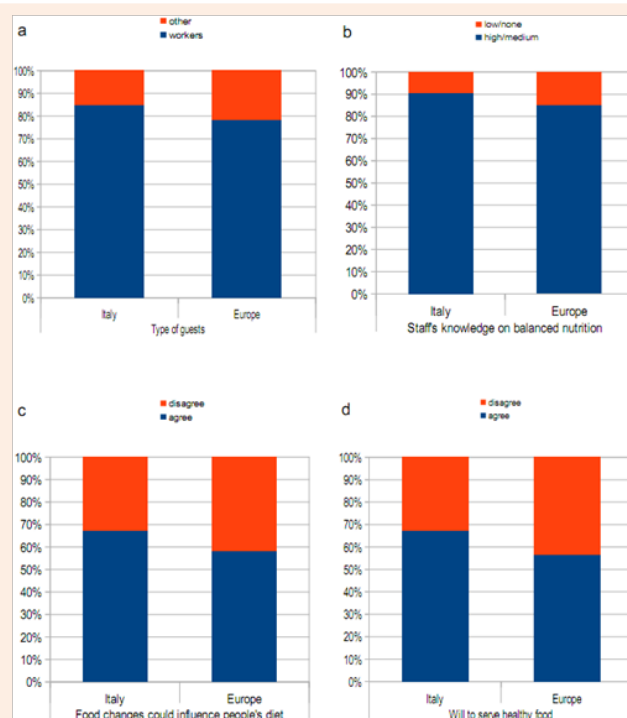
**Figure 1:** Comparison between Italy and Europe in responding FOOD questions;

- Percentage of employees having lunch break every day;
- Percentage of employees having lunch break inside or outside the workplace;
- Percentage of employees who consider food's nutritional quality important or not;
- Percentage of employees who consider the availability of fresh local and seasonal food important or not.

## Discussion

It is clear from the literature that intervention programs on nutrition represent a strong preventive strategy which can be pursued in the workplace [29,30]. As a PPP it offers a model of working in Public-Private Partnership Consortium composed of experts from six European countries across the food industry, hospitality/catering, and public health bodies. Workplace health promotion on nutritional issues has been demonstrated to change

lifestyle and improve healthy eating habits, and it can have positive effects not only on worker's welfare, but also on safety, performance and productivity [18]. Moreover, the inclusion of educational contents as part of the meal consumption pathways outside the home, especially in the workplace, may represent an innovative intervention strategy when compared to more traditional information and education campaigns, which have tended to produce disappointing outcomes [31]. The increased number of participating countries, 9 to date, and the increased numbers of questionnaires collected prove the high level of interest of both target groups in the programme based on the findings from the Italian data which shows that changes in the food offered and demanded can result in healthier eating, through minimum input, this goes beyond mere nudge theories and incorporated changes in the food offered and training for employees. Furthermore, the results show how over 50% of workers have already changed their lifestyle or are willing to, and 38% of restaurant owners have changed their menu as a result of the FOOD project.



**Figure 2:** Comparison between Italy and Europe in responding FOOD questions; a) Percentage of guest's type declared by restaurant owners; b) Percentage of declared knowledge about balanced nutrition by the staff, including the owner; c) Opinion of restaurant owners whether changes in one's nutrition could influence diet and health or not; d) Percentage of owners willing to try to serve healthy meals if starting investments are not too high (2014 data).

The environment that people eat in is important in terms of choice architecture and choice of healthy foods. A study conducted on a sample of 6693 students from 11 to 16 years old and on 289 teachers from 64 schools in Wales, showed that a longer duration of lunch time is related to higher odds of eating fruit and vegetables and to lower odds of choosing unhealthy foods, thus

encouraging principals to keep the lunch break long enough to allow students and teachers to be healthier in their food choices. Specifically, it emerges that from our data that price, service speed and available time for lunch break represent key points for the choice of the restaurant. Initiatives that allow sufficient time to eat and/or could reduce the price of low-calories food in canteens, restaurants and vending machines can help to improve worker's dietary lifestyle [29-34]. Another important feature emerging from the surveys is the importance of the wide availability of fruit, vegetables and local products, possibly seasonal, in the menus. The opportunity to have healthy food in the workplace, as well as in canteens or restaurants, promotes the consumption of healthy food [32]. In addition, consumer behaviour which were once strongly characterised by regional and national food traditions, tend increasingly to conform to transnational territorial eating patterns. For example, the decline of the Mediterranean diet model has obvious repercussions for the nutritional status of the population [35]. In practice, the promotion of healthy nutrition for workers can be achieved by different organisational and policy choices by a company. Examples of good practice in this area come from all over the world. In Italy, for example, "Nutrivending - Distribuzione Automatica e Promozione delle Salute" is a project developed by the Veneto region which aims to support healthy lifestyle and balanced eating habits through the supply of quality and fresh local products in vending machines in companies and schools. Another example comes from California, where the Department of Health Care Services asks employers to organise markets, managed by local farmers and close to the companies, to encourage the consumption of fresh products [33-36]. In addition to these interventions and proposals such as these, it would be also important and interesting to provide the opportunity to make use of meal vouchers in greengrocers [37].

Regarding the quality of the offer, the results underline the need to improve staff training and communication in relation to healthy eating. A survey carried out between 2006 and 2009 in the "San Giovanni Antica Sede" hospital in Turin, has collected suggestions about topics that should be included in healthy lifestyle and eating pathways. Providing simple and clear dietary information, which allows the identification of calories and highlights the strengths and weaknesses of foods stood out [31]. Furthermore, making staff in canteens and restaurants more active in influencing workers' choices and awareness about food can be an efficient plan of action [38]. From our data the identification with the FOOD scheme is low and while this is a matter of resources and promotion there exists an opportunity to promote the FOOD scheme through public health agencies. Respondents identify a need for training and information for employees in the promotion of healthy eating-offer and demand. This could be achieved in individual countries or even across countries with a stamp of approval from relevant public health and training bodies. Other interesting and long term feasible strategies which could be linked to the FOOD programme include the promotion of physical activity with multicomponent programs [30,39], the active involvement of employees in intervention planning [40] and a greater involvement of company physicians, thus promoting a "humanisation" of projects as well as taking advantage of the levels of trust between the doctor and the worker. This last point

has been evaluated with the comparison of two studies performed by the University of Turin which provided advice to employees on correct food choices. The data showed reductions of body weight and waist-hip ratio and increased choice awareness and "green food" consumed in both studies, but in the one in which a direct rapport with the physician was absent there was a significant lost to follow-up [41].

The main concern of the FOOD programme has been and still is to raise public awareness of the importance of the workplace as setting for healthy lifestyle promotion, and to show how willing employees are to change their habits with the right levels and type of support. The FOOD programme has attempted to propose new ways to implement a public health program through information, formation, awareness of the need for healthy behaviours and, finally, the dissemination of results throughout Europe. In conclusion, these seven years of activity have shown how the intervention plan can lead to good results, if based on the dual channels of offer and demand, on close cooperation between the public and private sectors and on communications of positive messages and advice without blaming the individual. However, the results also confirm that there is still much to be done, particularly in the field of education and information, and that other strategies can be implemented. The need for increased attention to the issue of proper nutrition, particularly in the workplace is also evident from the study, especially in the context of developing and supporting more research to provide more effective and sustainable tools in the area. Moreover, an authoritative community policy which coordinates the strategies of the Member States while recognising their individual contexts appears to be crucial in this new era of the fight against obesity.

### Acknowledgement

None.

### Conflict of Interest

None.

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